Listing of the Claims

1.   (Previously Presented) An application program interface (API) embodied on one or more computer readable media, comprising:

   a first group of services for integrating a plurality of content repositories into virtual content repositories (VCRs) such that the plurality of content repositories appear and behave as a single content repository, wherein the first group of services include:

      first functions for authorizing access to the plurality of content repositories;

      second functions for incorporating combined content of the plurality of content repositories into a hierarchical namespace; and

      third functions for extending a VCR content model to represent information in the plurality of content repositories;

   a second group of services for manipulating information in VCRs;

   a third group of services for searching VCRs; and

   a forth group of services for configuring VCRs;

   wherein the application program interface is compatible with a content repository service provider interface (SPI).

2.   (Original) The application program interface of claim 1 wherein:

   the SPI provides a subset of the services available in the API.

3.   (Canceled).

4.   (Previously Presented) The application program interface of claim 1 wherein:

   authorizing access to the plurality of content repositories includes providing authentication information to the plurality of content repositories and receiving authentication results from the plurality of content repositories.

5.   (Previously Presented) The application program interface of claim 1 wherein:

   authorizing access to the plurality of content repositories utilizes Java Authentication and Authorization Service.

2

6.   (Previously Presented) The application program interface of claim 1 wherein:

incorporating combined content of the plurality of content repositories into a hierarchical namespace includes representing the plurality of content repositories as nodes under a single VCR root node.

7.   (Previously Presented) The application program interface of claim 1 wherein:

extending a VCR content model to represent information in the plurality of content repositories includes sharing a common representation of content between the API and the SPI.

8.   (Withdrawn) The application program interface of claim 1, wherein the second group of services comprises:

first functions that enable creation of information in VCRs;

second functions that enable reading of information from VCRs;

third functions that enable updating of information in VCRs;

fourth functions that enable deleting of information in VCRs;

wherein information in VCRs maps to information in one or more content repositories; and

wherein information can be contents and/or schemas.

9.   (Withdrawn) The application program interface of claim 1, wherein the third group of services comprises:

first functions that enable searching content information in VCRs;

second functions that enable searching schema information in VCRs; and

third functions that enable configuring search result caches.

10.   (Withdrawn) The application program interface of claim 9 wherein:

searching content information in VCRs includes searching content repositories.

11.   (Withdrawn) The application program interface of claim 9 wherein:

searching schema information in VCRs includes searching content repositories.

12.   (Withdrawn) The application program interface of claim 9 wherein:

configuring search result caches includes at least one of: 1) setting the time to live for cache entries; and 2) setting the maximum number of cache entries.

13.   (Withdrawn) The application program interface of claim 1, wherein the fourth group of services comprises:

first functions that enable configuring repository caches; and

second functions that enable configuring authorization information for content repositories.

14.   (Withdrawn) The application program interface of claim 13 wherein:

configuring repository caches includes at least one of: 1) turning a cache on or off; 2) setting the maximum number of entries for a cache; and 3) setting the time to live for cache items.

15.   (Withdrawn) The application program interface of claim 13 wherein:

configuring authorization information for content repositories includes at least one of: 1) setting a password and user name for a repository; and 2) setting a read-only attribute for a repository.

16.   (Withdrawn) A network software architecture comprising the API as recited in claim 1.

17.   (Canceled).

18.   (Previously Presented) A software architecture for a distributed computing system, comprising:

a first application configured to handle requests provided to it by a second application over a network; and

an application program interface (API) to provide functions used by the first application to access a virtual content repository (VCR), wherein the API includes:

a first group of services for integrating a plurality of content repositories into

virtual content repositories (VCRs), wherein the first group of services include:

first functions for authorizing access to the plurality of content

repositories;

second functions for incorporating combined content of the plurality of

content repositories into a hierarchical namespace; and

third functions for extending a VCR content model to represent

information in the plurality of content repositories;

a second group of services for manipulating information VCRs;

a third group of services for searching VCRs; and

a forth group of services for configuring VCRs;

wherein the API is compatible with a content repository service provider interface

(SPI);

wherein the VCR integrates the plurality of content repositories such that the plurality of

content repositories appear and behave as a single content repository.

19.   (Canceled).

20.   (Previously Presented) The software architecture of claim 18 wherein:

the SPI provides a subset of the services available in the API.

21.   (Canceled).

22.   (Previously Presented) The software architecture of claim 18 wherein:

authorizing access to the plurality of content repositories includes providing

authentication information to the plurality of content repositories and receiving authentication

results from the plurality of content repositories.

23.   (Previously Presented) The software architecture of claim 18 wherein:

authorizing access to the plurality of content repositories utilizes Java Authentication and

Authorization Service.

24.   (Previously Presented) The software architecture of claim 18 wherein:

incorporating combined content of the plurality of content repositories into a hierarchical

namespace includes representing content repositories as nodes under a single VCR root node.

5

25.   (Previously Presented) The application program interface of claim 18 wherein:

extending a VCR content model to represent information in the plurality of content repositories includes sharing a common representation of content between the API and the SPI.

26.   (Withdrawn) The software architecture of claim 19 wherein the second group of services comprises:

first functions that enable creation of information in VCRs;

second functions that enable reading of information from VCRs;

third functions that enable updating of information in VCRs;

fourth functions that enable deleting of information in VCRs;

wherein information in VCRs maps to information in one or more content repositories; and

wherein information can be contents and/or schemas.

27.   (Withdrawn) The software architecture of claim 19 wherein the third group of services comprises:

first functions that enable searching content information in VCRs;

second functions that enable searching schema information in VCRs; and

third functions that enable configuring search result caches.

28.   (Withdrawn) The software architecture of claim 27 wherein:

searching content information in VCRs includes searching content repositories.

29.   (Withdrawn) The software architecture of claim 27 wherein:

searching schema information in VCRs includes searching content repositories.

30.   (Withdrawn) The software architecture of claim 27 wherein:

configuring search result caches includes at least one of: 1) setting the time to live for cache entries; and 2) setting the maximum number of cache entries.

31.   (Withdrawn) The software architecture of claim 19, wherein the fourth group of services comprises:

first functions that enable configuring repository caches; and

6

second functions that enable configuring authorization information for content repositories.

32. (Withdrawn) The software architecture of claim 31 wherein:

configuring repository caches includes at least one of: 1) turning a cache on or off; 2) setting the maximum number of entries for a cache; and 3) setting the time to live for cache items.

33. (Withdrawn) The software architecture of claim 31 wherein:

configuring authorization information for content repositories includes at least one of: 1) setting a password and user name for a repository; and 2) setting a read-only attribute for a repository.

34. (Previously Presented) A method for providing a virtual content repository (VCR) representing a plurality of content repositories such that they appear and behave as a single content repository, comprising:

providing an application program interface (API), wherein the API includes:

a first group of services for integrating the plurality of content repositories into the VCR, wherein the first group of services include:

first functions for authorizing access to the plurality of content repositories;

second functions for incorporating combined content of the plurality of content repositories into a hierarchical namespace; and

third functions for extending a VCR content model to represent information in the plurality of content repositories;

a second group of services for manipulating information VCRs;

a third group of services for searching VCRs; and

a forth group of services for configuring VCRs;

wherein the application program interface is compatible with a content repository service provider interface; and

providing a service provider interface (SPI) to be implemented by the plurality of content repositories;

wherein the API and the SPI are compatible and share a common content model and a common namespace.

7

35.   (Original) The method of claim 34 wherein the content model includes:

a set of hierarchically related objects.

36.   (Previously Presented) The method of claim 34 wherein

the namespace makes addressable the content in the plurality of content repositories.

37.   (Original) The method of claim 34 wherein the API includes:

services for performing operations on the namespace and the content model.

38.   (Previously Presented) The method of claim 34 wherein the SPI includes:

services for merging contents of the plurality of content repositories into the namespace

and the content model.

39.   (Canceled).

40.   (Previously Presented) The method of claim 34 wherein:

the content repository service provider interface provides a subset of the services

available in the application program interface.

41.   (Canceled).

42.   (Previously Presented) The method of claim 34 wherein:

authorizing access to the plurality of content repositories includes providing

authentication information to the plurality of content repositories and receiving authentication

results from the plurality of content repositories.

43.   (Previously Presented) The method of claim 34 wherein:

authorizing access to the plurality of content repositories utilizes Java Authentication and

Authorization Service.

44.   (Previously Presented) The method of claim 34 wherein:

incorporating combined contents of the plurality of content repositories into a hierarchical namespace includes representing the plurality of content repositories as nodes under a single VCR root node.

45.   (Previously Presented) The method of claim 34 wherein:

extending a VCR content model to represent information in the plurality of content repositories includes sharing a common representation of content between the application program interface and the service provider interface.

46.   (Withdrawn) The method of claim 39 wherein the second group of services comprises:

first functions that enable creation of information in VCRs;

second functions that enable reading of information from VCRs;

third functions that enable updating of information in VCRs;

fourth functions that enable deleting of information in VCRs;

wherein information in VCRs maps to information in one or more content repositories; and

wherein information can be contents and/or schemas.

47.   (Withdrawn) The method of claim 39 wherein the third group of services comprises:

first functions that enable searching content information in VCRs;

second functions that enable searching schema information in VCRs; and

third functions that enable configuring search result caches.

48.   (Withdrawn) The method of claim 47 wherein:

searching content information in VCRs includes searching content repositories.

49.   (Withdrawn) The method of claim 47 wherein:

searching schema information in VCRs includes searching content repositories.

50.   (Withdrawn) The method of claim 47 wherein:

configuring search result caches includes at least one of: 1) setting the time to live for cache entries; and 2) setting the maximum number of cache entries.

51.   (Withdrawn) The method of claim 39 wherein the fourth group of services comprises:

first functions that enable configuring repository caches; and

second functions that enable configuring authorization information for content

repositories.

52.   (Withdrawn) The method of claim 51 wherein:

configuring repository caches includes at least one of: 1) turning a cache on or off; 2)

setting the maximum number of entries for a cache; and 3) setting the time to live for cache

items.

53.   (Withdrawn) The method of claim 51 wherein:

configuring authorization information for content repositories includes at least one of: 1)

setting a password and user name for a repository; and 2) setting a read-only attribute for a

repository.

54.   (Previously Presented) A machine readable medium having instructions stored thereon

that when executed by a processor cause a system to:

provide an application program interface (API), wherein the API includes:

a first group of services for integrating a plurality of content repositories into

virtual content repositories (VCR) such that the plurality of content repositories

appear and behave as a single content repository, wherein the first group of

services include:

first functions for authorizing access to the plurality of content

repositories;

second functions for incorporating combined content of the plurality of

content repositories into a hierarchical namespace; and

third functions for extending a VCR content model to represent

information in the plurality of content repositories;

a second group of services for manipulating information VCRs;

a third group of services for searching VCRs; and

a forth group of services for configuring VCRs;

wherein the application program interface is compatible with a content repository

service provider interface;

10

provide a service provider interface (SPI) to be implemented by a plurality of content repositories; and

wherein the API and the SPI are compatible and share a common content model and a common namespace.

55. (Original) The machine readable medium of claim 54 wherein the content model includes:

a set of hierarchically related objects.

56. (Previously Presented) The machine readable medium of claim 54 wherein:

the namespace makes addressable the content in the plurality of content repositories.

57. (Original) The machine readable medium of claim 54 wherein the API includes:

services for performing operations on the namespace and the content model.

58. (Previously Presented) The machine readable medium of claim 54 wherein the SPI includes:

services for merging contents of the plurality of content repositories into the namespace and the content model.

59. (Canceled).

60. (Previously Presented) The machine readable medium of claim 54 wherein:

the content repository service provider interface provides a subset of the services available in the application program interface.

61. (Canceled).

62. (Previously Presented) The machine readable medium of claim 54 wherein:

authorizing access to the plurality of content repositories includes providing authentication information to repositories and receiving authentication results from the plurality of content repositories.

63.   (Previously Presented) The machine readable medium of claim 54 wherein:

authorizing access to the plurality of content repositories utilizes Java Authentication and Authorization Service.

64.   (Previously Presented) The machine readable medium of claim 54 wherein:

incorporating combined content of the plurality of content repositories into a hierarchical namespace includes representing the plurality of content repositories as nodes under a single VCR root node.

65.   (Previously Presented) The machine readable medium of claim 54 wherein:

extending a VCR content model to represent information in the plurality of content repositories includes sharing a common representation of content between the application program interface and the service provider interface.

66.   (Withdrawn) The machine readable medium of claim 59 wherein the second group of services comprises:

first functions that enable creation of information in VCRs;

second functions that enable reading of information from VCRs;

third functions that enable updating of information in VCRs;

fourth functions that enable deleting of information in VCRs;

wherein information in VCRs maps to information in one or more content repositories; and

wherein information can be contents and/or schemas.

67.   (Withdrawn) The machine readable medium of claim 59 wherein the third group of services comprises:

first functions that enable searching content information in VCRs;

second functions that enable searching schema information in VCRs; and

third functions that enable configuring search result caches.

68.   (Withdrawn) The machine readable medium of claim 67 wherein:

searching content information in VCRs includes searching content repositories.

69.   (Withdrawn) The machine readable medium of claim 67 wherein:

        searching schema information in VCRs includes searching content repositories.

70.   (Withdrawn) The machine readable medium of claim 67 wherein:

        configuring search result caches includes at least one of: 1) setting the time to live for
cache entries; and 2) setting the maximum number of cache entries.

71.   (Withdrawn) The machine readable medium of claim 59 wherein the fourth group of
services comprises:

        first functions that enable configuring repository caches; and

        second functions that enable configuring authorization information for content
repositories.

72.   (Withdrawn) The machine readable medium of claim 71 wherein:

        configuring repository caches includes at least one of: 1) turning a cache on or off; 2)
setting the maximum number of entries for a cache; and 3) setting the time to live for cache
items.

73.   (Withdrawn) The machine readable medium of claim 71 wherein:

        configuring authorization information for content repositories includes at least one of: 1)
setting a password and user name for a repository; and 2) setting a read-only attribute for a
repository.

74.   (Canceled).